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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/164,580	10/01/1998	RICHARD W. ARNOLD	TI-22561	6836

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TEXAS INSTRUMENTS INCORPORATED  
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EXAMINER
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MITCHELL, JAMES M

ART UNIT	PAPER NUMBER
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2813

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/14/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/164,580	<b>Applicant(s)</b> ARNOLD ET AL.	
	<b>Examiner</b> James M. Mitchell	<b>Art Unit</b> 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,9-16,22,23,25,27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 and 27 is/are allowed.
- 6) ☒ Claim(s) 9-16,22,23,25 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to the BAPI decision filed September 28, 2006. Pursuant to M.P.E.P §2302 and the BPAI's direction, the Interference and Practice Specialist has been consulted and it has been determined that the interference shall not be invoked for the reasons below. As such, the finality of the prior action has been withdrawn, and the copied claims properly rejected by Potter under 35 U.S.C. §102(e).

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with Jay Cantor on January 4, 2007, because these copied claims were not supported by applicant's original disclosure. Claim 28 has been canceled in light of being drawn to a canceled claim.

4. The application has been amended as follows:

#### Claims

Cancel claims 24, 26, 28, 30 and 31.

#### ***Interference***

5. Claims 22, 23, 25 and 29 are rejected under 35 U.S.C. 135(b)(1) as not being made prior to one year from the date on which U.S. Patent No. Potter (U.S. 6,028,437) was granted. See *In re McGrew*, 120 F.3d 1236, 1238, 43 USPQ2d 1632, 1635 (Fed.

Cir. 1997) where the Court held that 35 U.S.C. 135(b) may be used as a basis for *ex parte* rejections<sup>1</sup>.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11, 12, 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Silicon and an insulation layer are mutually exclusive .

8. Upon review of the prosecution history in this case, it appears that applicant never affirmatively canceled claims 11, 12, 15 and 16 in response to the office action filed February 27, 2003. Applicant in his appeal brief filed April 7, 2003 only stated that the issue of indefiniteness "is now moot in view of the withdrawal of the appeal of this rejection;" this statement does nothing to clarify the record since the outstanding claims have neither been canceled or withdrawn pursuant to a restriction requirement. Accordingly, based on applicant's withdrawal of his appeal to the rejection drawn to claims 11, 12, 15 and 16, the claims must be canceled.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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<sup>1</sup> Based on the Board's direction filed September 28, 2006 on page 16, the issue of interference has been discussed with the TC specialist even though examinations of all issues are not completed. See M.P.E.P 2304 [R-4].

Art Unit: 2813

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Higgins III (U.S. 5,985,682).

11. Higgins (Fig. 2-4) discloses:

(cl. 9) an interconnecting layer for use in a semiconductor package which comprises; (a) an electrically insulating layer (e.g. no short between traces, 210 along 12); (b) electrically conductive paths (210) on said layer, each of said paths having first (212) and second spaced apart regions thereon (e.g. portion 210, under bump, 204) , said second spaced apart region of each of said paths having a compliant bump (204) having a height greater than all other structures on said layer; and (c) a standoff (216) disposed on said layer and having a height above said layer and less than said bump (Fig. 2);

(cl. 10) said second region is a bump (204) extending above the level of said electrically conductive path.

12. Claims 22, 23, 25 and 29 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Potter (U.S. 6,028,437)<sup>2</sup>.

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<sup>2</sup> Applicant admittedly copied the claims of Potter.

***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higgins III (U.S. 5,985,682) in combination with Pasch et al (U.S. 5,821,624).

15. Higgins discloses the elements states in paragraph 11 of this office action, but fails to explicitly disclose that its insulating material is flexible.

16. However Higgins discloses the same invention except that its interposer is not explicitly taught as flexible. However, Pasch (Col. 16, Lines 59-64) discloses that either flexible or rigid substrates are known in the art to provide equivalent supports for testing chips. Therefore, because these two types of substrate provides art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute flexible for a rigid substrate.

17. Furthermore, whether the substrate is flexible or rigid is a characteristic of the material selected. As such, either the selection of a flexible or a rigid material would have been obvious to one of ordinary skill in the art at the time the invention was made, since it has been held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945).

***Allowable Subject Matter***

18. Claims 1-4 and 27 are allowed.

***Response to Arguments***

19. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art discloses in Atkin et al. (U.S. 5,682,064) and Farnworth et al. (U.S. 6,369,595) an interconnecting layer used with a standoff and terminals; Akram (U.S. 5,929,647), Jamison (U.S. 4,783,719) and Takeda et al. (U.S. 5,892,271) the use of a material like polyimide for a flexible test substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ex. Mitchell, J.D.  
February 4, 2007



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